LEUPOLD®

AMERICA'S OPTICS AUTHORITY®

BALLISTICS AIMING SYSTEM®

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Various language translations of the BAS Manual can be found at www.leupold.com.

La traduction en français du manuel BAS se trouve à www.leupold.com.

La traducción al español del manual BAS se encuentra en www.leupold.com.

Das BAS-Handbuch in deutscher Sprache finden Sie unter www.leupold.com.

La traduzione in italiano del manuale BAS è pubblicata sul sito seguente: www.leupold.com.

The Leupold Ballistics Aiming System®— Boone and Crockett™ Big Game Reticle

The goal of every hunter is a successful hunt with a clean harvest. It was with this in mind that Leupold® created the Leupold Ballistics Aiming System®. Because we so strongly agree with the Boone and Crockett Club's® legacy of wildlife conservation and ethical fair chase hunting, we have designated one of the system's reticles as the Boone and Crockett™ Big Game reticle.

The Boone and Crockett™ Big Game reticle gives the hunter very useful tools intended to bring about successful hunts with clean and efficient harvests. Through the use of these straightforward and easy-to-follow instructions, it is sincerely hoped that all hunters will find their skills improved and their hunts more successful.

An Overview of the Leupold Ballistics Aiming System®

The Leupold Ballistics Aiming System® provides a series of aiming points to improve your ability to shoot accurately at longer ranges. The first aiming point (the intersection of the Duplex® reticle) is designed to be used at 200 yards with most common cartridges or at 300 yards in several flatter shooting cartridges designed for longer range use.

The Leupold Ballistics Aiming System® provides you with two different power selector positions, indicated by large and small triangles located within the magnification level indicators *(VX®-7 users: see "Another Way to Sight In" on page 30).* These are provided to allow you to select the hold points best suited to the cartridge you are using. In some cases, the smaller triangle setting can be used to accommodate your slower, heavier bullet load, while the larger triangle can be used to accommodate a faster, lighter bullet load in the same rifle. The reticle assumes bullets of similar spitzer shape will be used throughout.

As an example, a .30-06 with a 180 gr. spitzer bullet and 2700 fps muzzle velocity would require the use of the smaller triangle mark. A .30-06 with a 150 gr. spitzer bullet at 3000 fps muzzle velocity would use the larger triangle mark. We have designated three sets of cartridges to be used in conjunction with the large and small triangles and sight-in distances of either 200 or 300 yards, described as Group A, Group B, and Group C:

- Group A cartridges will use the large triangle and a 200 yard zero
- Group B cartridges will use the small triangle and a 200 yard zero
- Group C cartridges will use the large triangle and a 300 yard zero

Be sure to verify the aiming points by practicing at the actual distances at which the points are intended to work. Ballistics performance of your rifle and cartridge can vary somewhat from ammunition manufacturer data due to rifle barrel length, actual ammunition performance, and various atmospheric conditions.

Boone and Crockett™ Big Game Reticle Cartridge List

GROUP A (Large Triangle, 200 yard zero)

Caliber	Bullet Wt.	Velocity
.223 Remington	40	3800 fps
.22-250 Remington	55	3650 fps
.243 Winchester	100	2900 fps
.25-06 Remington	100	3200 fps
.25-06 Remington	120	3000 fps
.270 Winchester	130	3050 fps
.270 WSM	150	3120 fps
.280 Remington	140	3000 fps
7mm Remington Mag	150	3050 fps
.30-06 Springfield	150	3000 fps
.300 WBY Mag	180	3100 fps
.300 Winchester Mag	180	2950 fps
.300 WSM	180	2950 fps
.338 Winchester Mag	200	2950 fps
.338 RUM	250	2900 fps

(35-45 inches of drop at 500 yards)

GROUP B (Small Triangle, 200 yard zero)

Caliber	Bullet Wt.	Velocity
.260 Remington	120	2850 fps
6.5x55 Swedish	129	2750 fps
.30-06 Springfield	180	2700 fps
.308 Winchester	150	2850 fps
.308 Winchester	165	2700 fps
.303 British	150	2700 fps
.270 Winchester	150	2850 fps
.375 H&H	270	2700 fps
.338 Winchester Mag	225	2800 fps
.338 Winchester Mag	250	2700 fps
.375 H&H	300	2600 fps

(48-58 inches of drop at 500 yards)

GROUP C (Large Triangle, 300 yard zero)

Caliber	Bullet Wt.	Velocity
.270 WSM	130	3275 fps
.300 WSM	150	3300 fps
.300 Winchester Mag	150	3300 fps
7mm WSM	140	3225 fps
7mm STW	140	3325 fps
7mm RUM	140	3450 fps
7mm RUM	160	3250 fps
.30-.378 WBY	180	3400 fps
.300 RUM	180	3400 fps
.270 Weatherby	130	3200 fps
7mm Remington Mag	150	3100 fps
.300 WBY Mag	150	3375 fps

(Less than 35 inches of drop at 500 yards)

General Instructions For the Use of the Leupold Ballistics Aiming System®

SIGHTING-IN

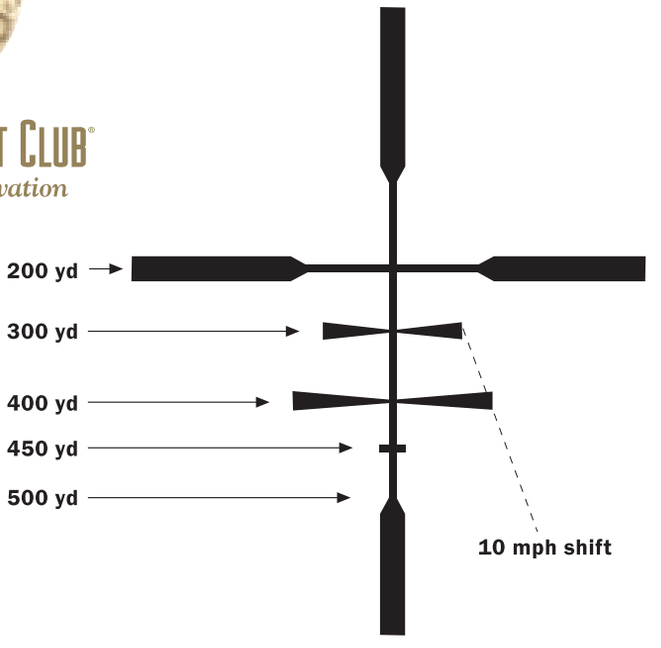
The Boone and Crockett™ Big Game reticle is sighted-in by zeroing the rifle at the intersection of the Duplex® reticle at either 200 yards (Group A and B), or 300 yards (Group C). For Group C cartridges sighted-in at 300 yards, the lower aiming marks will be correct at 400, 500, 550, and 600 yards. The scope must then be set to the appropriate triangle to properly use the ballistics compensation features. Be sure to verify the aiming points by practicing at the actual distances at which the points are intended to work. Ballistics performance of your rifle and cartridge can vary somewhat from ammunition manufacturer data due to rifle barrel length, actual ammunition performance, and various atmospheric conditions. See the Owner's Handbook for detailed sighting-in instructions.

Boone and Crockett™ Big Game Reticle Features

The Boone and Crockett™ Big Game reticle offers:

- a Duplex central aiming point (sighted-in at 200 or 300 yards) as well as CPC-style hold points calibrated to 300 and 400 yards, and additional aiming features for targets at 450 and 500 yards for Group A and Group B cartridges (add 100 yards for Group C cartridges)
- a 10 mph windage hold point at both the left and right ends of the 300 and 400 yard CPC-style hold points
- the traditional VX®-III range estimating feature between the Duplex central aiming point and the top vertical heavy post (consult the Leupold Riflescope Owner's Handbook)

BOONE AND CROCKETT CLUB®
Fair Chase and Conservation
SINCE 1887



Range	Power Selector Values		10 MPH Drift
	Large ▼ Bullet Drop	Small ▾ Bullet Drop	
200 yd MOA	—	—	—
200 yd Inches	—	—	—
300 yd MOA	2.19	2.74	2.16
300 yd Inches	6.88	8.61	6.79
400 yd MOA	4.80	6.00	3.03
400 yd Inches	20.11	25.13	12.69
450 yd MOA	6.26	7.83	—
450 yd Inches	29.50	36.87	—
500 yd MOA	7.82	9.78	—
500 yd Inches	40.95	51.18	—

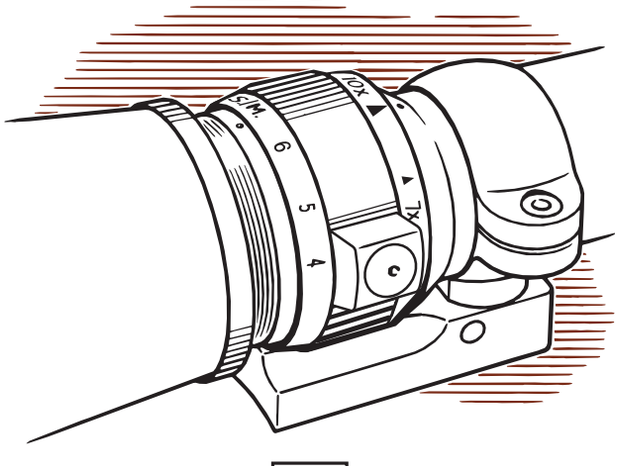
NOTE: *When using a cartridge in Group C and sighting-in at 300 yards, add 100 yards to all of the above yardage indicators.*

Using the Boone and Crockett™ Big Game Reticle

In order to use the Boone and Crockett™ Big Game reticle, you must determine which of the three groups (Group A, Group B, or Group C) your cartridge and load fits into.

DETERMINE POWER SELECTOR SETTING

First, determine which of the triangles on the power selector is the correct one to use with your particular rifle caliber, bullet weight, and muzzle velocity. Refer to the tables of Group A, Group B, and Group C cartridges on page 4.



Once you have determined which triangle is the correct one for your rifle caliber, bullet weight, and muzzle velocity, always remember that is the position to which you must set the power selector when using any of the hold points on the Boone and Crockett™ Big Game reticle.

DETERMINE THE RANGE TO THE TARGET

Determine the range to your target using a laser rangefinder such as a Leupold RB800C, or RX™ or RXB Series digital laser rangefinder, or utilize the traditional VX-III range estimating feature using the space between the Duplex central aiming point and the top vertical heavy post. For more information about how to use this feature, consult your Leupold Riflescope Owner's Handbook.

AIMING

The Boone and Crockett™ Big Game reticle is a hold point reticle. For targets judged to be 300 yards away, hold directly on the 300 yard hold point. For 350 yard targets, hold directly between the 300 and 400 yard hold points. For your convenience, a 450 yard hold point has been included between the 400 and 500 yard hold points.

WIND COMPENSATION

The left and right edges of the 300 and 400 yard hold points may be used as 10 mph wind compensators. To correct for a wind speed of 10 mph, place the edge of the hold point for the appropriate distance directly on the target when aiming.

CONCLUSION

- Choose the appropriate ballistics group
- Sight-in at the distance required by that group (this may be done at any magnification setting)
- Adjust the magnification to the appropriate triangle before using any of the long range hold or windage points

The Leupold Ballistics Aiming System — Varmint Hunter's™ Reticle

The goal of every hunter is a successful hunt with a cleanly made harvest. Whether a hunter is pursuing big game or varmints, it is imperative that he or she strive to make a quick, humane kill. It is with this in mind that Leupold has introduced the Varmint Hunter's™ reticle, a tool intended to allow shooters to make solid hits and clean kills at longer ranges on varmints.

The Varmint Hunter's™ reticle gives the hunter very useful tools intended to bring about successful hunts with clean and efficient harvests. Through the use of these straightforward and easy-to-follow instructions, it is sincerely hoped that all hunters will find their skills improved and their hunts more successful.

An Overview of the Leupold Ballistics Aiming System®

The Leupold Ballistics Aiming System® provides a series of aiming points to improve your ability to shoot accurately at longer ranges. The first aiming point (the intersection of the German #4 reticle) is designed to be used at 200 yards with most common varmint cartridges or at 300 yards in several flatter shooting cartridges designed for longer range use. See page 14 for cartridge group tables.

The Leupold Ballistics Aiming System® provides you with two different power selector positions, indicated by large and small triangles located within the magnification level indicators *(VX-7 users: see "Another Way to Sight In" on page 30).* These are provided to allow you to select the hold points best suited to the cartridge you are using. In some cases, the smaller triangle setting can be used to accommodate your slower, heavier bullet load, while the larger triangle can be used to accommodate a faster, lighter bullet load in the same rifle. The reticle assumes bullets of similar spitzer shape will be used throughout.

As an example, a .223 Remington with a 40 gr. V-max® bullet and 3800 fps muzzle velocity would require the use of the larger triangle mark. A .223 Remington with a 55 gr. V-max bullet at 3240 fps muzzle velocity would use the smaller triangle mark. We have designated three sets of cartridges to be used in conjunction with the large and small triangles and sight-in distances of 200 yards, described as Group A, Group B, and Group C.

- Group A cartridges will use the large triangle and a 200 yard zero
- Group B cartridges will use the small triangle and a 200 yard zero
- Group C cartridges will use the large triangle and a 300 yard zero

Varmint Hunter's™ Reticle Cartridge List

GROUP A (Large Triangle, 200 yard zero)

Caliber	Bullet Wt.	Velocity
.17 Remington	25	4000 fps
.223 Remington	40	3800 fps
.222 Remington	40	3600 fps
.22-250 Remington	50	3800 fps
.22-250 Remington	55	3680 fps
.220 Swift	50	3850 fps
.220 Swift	50	3750 fps
.220 Swift	55	3680 fps
.223 WSSM	55	3850 fps
.243 Winchester	58	3750 fps
.25-06 Remington	100	3200 fps
.25-06 Remington	120	3000 fps
.270 Winchester	130	3050 fps
.270 WSM	130	3200 fps
.270 Weatherby	130	3200 fps
7mm Remington Mag	150	3100 fps
.300 Winchester Mag	180	3100 fps

(30-40 inches of drop at 500 yards)

GROUP B (Small Triangle, 200 yard zero)

Caliber	Bullet Wt.	Velocity
.222 Remington	50	3150 fps
.223 Remington	53	3300 fps
.222 Remington Mag	55	3250 fps
.223 Remington	55	3250 fps
.243 Winchester	75	3400 fps
.243 Winchester	100	2900 fps
6mm Remington	75	3400 fps
.257 Roberts	117	2900 fps
.270 Winchester	150	2850 fps
7mm Remington Mag	175	2850 fps

(45-55 inches of drop at 500 yards)

GROUP C (Large Triangle, 300 yard zero)

Caliber	Bullet Wt.	Velocity
.17 Remington	20	4250 fps
.204 Ruger	32	4225 fps
.204 Ruger	40	3900 fps
.220 Swift	40	4200 fps
.22-250 Remington	40	4150 fps
.243 Winchester	55	3900 fps
.243 WSSM	55	4050 fps
.7mm STW	140	3325 fps
.7mm RUM	140	3450 fps
.7mm RUM	160	3250 fps
.30-.378 WBY	180	3400 fps
.300 RUM	180	3400 fps

(Less than 30 inches of drop at 500 yards)

General Instructions For the Use of the Leupold Ballistics Aiming System®

SIGHTING-IN

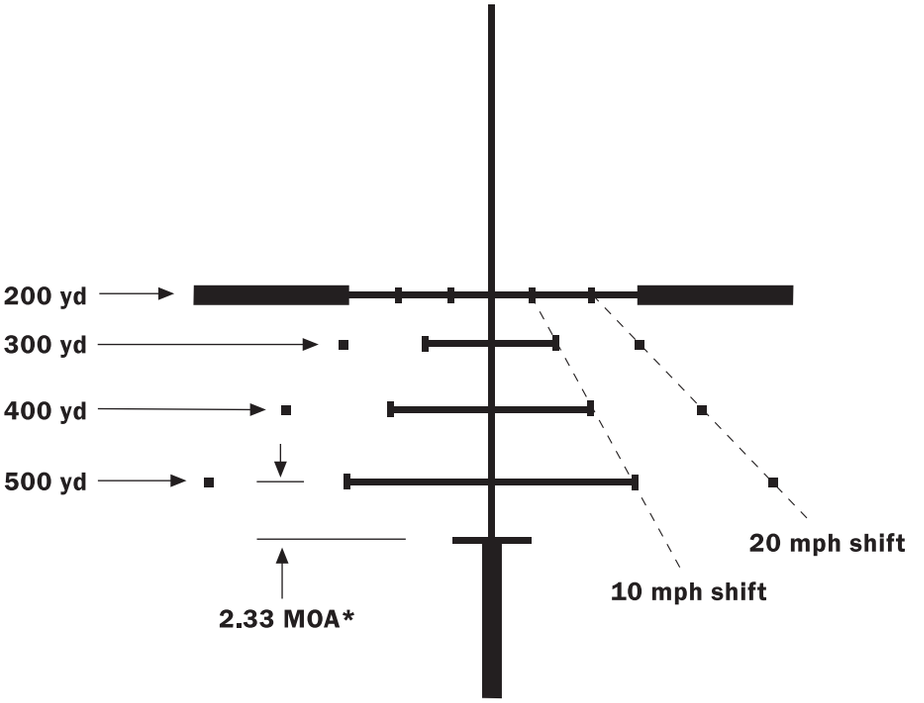
The Varmint Hunter's™ reticle is sighted-in by zeroing the rifle at the intersection of the German #4 reticle at 200 yards for Group A and Group B cartridges. For Group C cartridges, sight-in at 300 yards and the lower aiming marks will be correct at 400, 500, and 600 yards. The scope must then be set to the appropriate triangle to properly use the ballistics compensation features. Be sure to verify the aiming points by practicing at the actual distances at which the points are intended to work. Ballistics performance of your rifle and cartridge can vary somewhat from ammunition manufacturer data due to rifle barrel length, actual ammunition performance, and various atmospheric conditions.

Varmint Hunter's™ Reticle Features

The Varmint Hunter's™ reticle offers:

- a fine-lined German #4-style central aiming point (sighted-in at 200 yards in most cases) as well as cross-wire hold points calibrated to 300, 400, and 500 yards for most cartridges
- 10 and 20 mph windage hold points at both the left and right ends of the 300, 400, and 500 yard cross-wire hold points
- 10, 20, and 30 mph windage hold points along the German #4-style central aiming point line
- a prairie dog range estimator between the 500 yard and bottom vertical heavy post

Varmint Hunter's Reticle



Range	Power Selector Values		10 MPH Drift	20 MPH Drift	30 MPH Drift
	Large ▼ Bullet Drop	Small ▾ Bullet Drop			
200 yd MOA	—	—	1.77	3.54	5.31
200 yd Inches	—	—	3.71	7.41	11.12
300 yd MOA	1.81	2.26	2.86	5.72	—
300 yd Inches	5.69	7.10	8.98	17.97	—
400 yd MOA	4.13	5.16	4.09	8.17	—
400 yd Inches	17.30	21.61	17.13	34.22	—
500 yd MOA	7.02	8.78	5.49	10.99	—
500 yd Inches	36.80	46.00	25.87	51.79	—

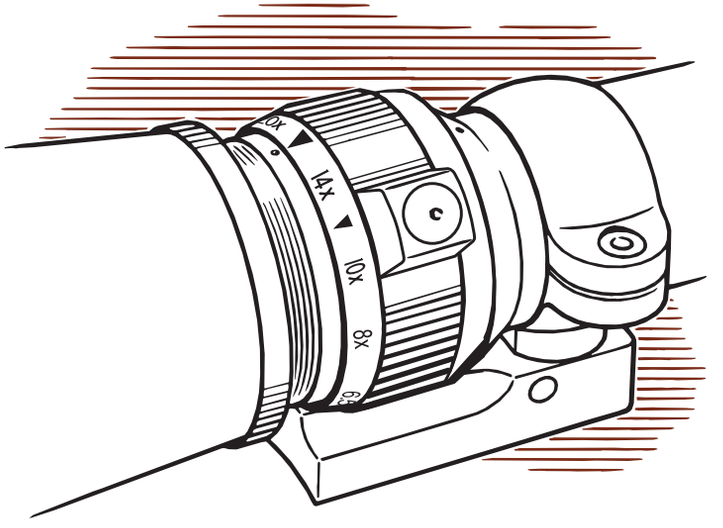
*Brackets a standing prairie dog at 300 yards. If the prairie dog is smaller than the bracket, then it is more than 300 yards away.

Using the Varmint Hunter's Reticle

In order to use the Varmint Hunter's™ reticle, you must determine which of the three groups (Group A, Group B, or Group C) your cartridge and load fits into.

DETERMINE POWER SELECTOR SETTING

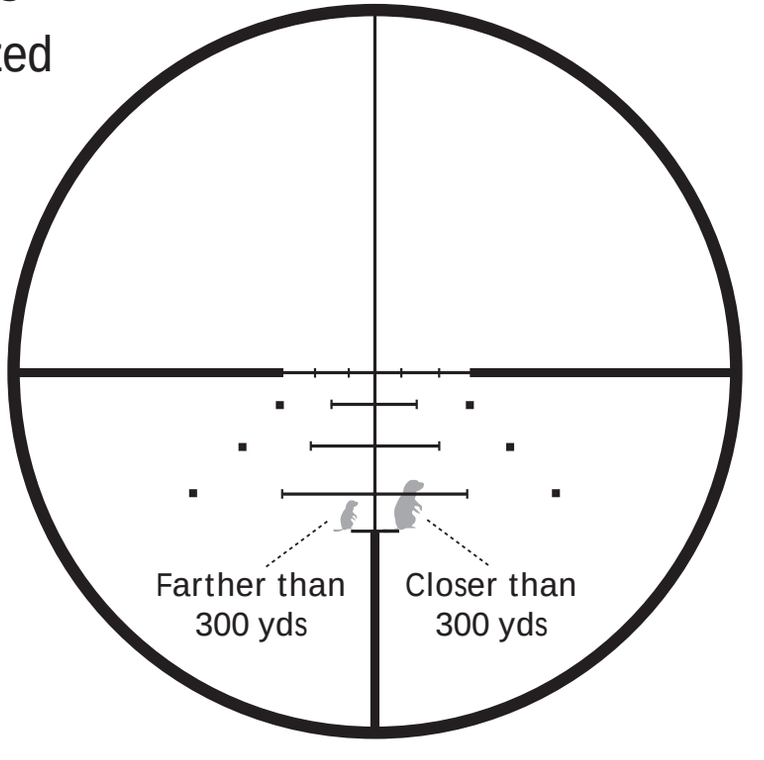
First, determine which of the triangles on the power selector is correct for your particular rifle caliber, bullet weight, and muzzle velocity. Refer to the tables of Group A, Group B, and Group C cartridges on page 14.



Once you have determined which triangle is the correct one for your rifle caliber, bullet weight, and muzzle velocity, always remember that is the position to which you must set the power selector when using any of the hold points on the Varmint Hunter's™ reticle.

DETERMINE THE RANGE TO THE TARGET

Determine the range to your target using a laser rangefinder such as a Leupold RB800C, or RX or RXB Series digital laser rangefinder. Or you may determine whether a prairie dog-sized target is 300 yards or closer by setting the power selector on the large triangle and fitting the target in the space between the top of the bottom post and the 500 yard aiming line. If the target is larger than this space, it is closer than 300 yards. If it is smaller, then it is farther than 300 yards.



NOTE: *You must have your power selector ring positioned on the large triangle to make a proper determination of range.*

AIMING

The Varmint Hunter's™ reticle is a hold point reticle. For targets judged to be 300 yards away, hold directly on the 300 yard hold point. For 350 yard targets, hold directly between the 300 and 400 yard hold points, for 450 yard targets hold directly between the 400 and 500 yard hold points.

WIND COMPENSATION

The left and right edges of the 300, 400, and 500 yard hold points may be used as 10 mph wind compensators. To correct for a wind speed of 10 mph, place the edge of the hold point for the distance of the target directly on the target when aiming. To correct for a 20 mph wind, place the small square to the right or left of the appropriate 10 mph hold point directly on the target when aiming.

CONCLUSION

- Choose the appropriate ballistics group
- Sight-in at the distance required by that group (this may be done at any magnification setting)
- Adjust the magnification to the appropriate triangle before using any of the long range hold or windage points

The Leupold Ballistics Aiming System — LR Duplex® Reticle

To use the LR Duplex® reticle, zero your rifle at either 200 yards for Group A cartridges or at 300 yards if your rifle is chambered for one of the Group C cartridges from the LR Duplex® table on page 22. If you are using a Group A cartridge, this will make the dots below the horizontal crosswire be zeroed for 300, 400, and 500 yards. If you are using a Group C cartridge, this will make the dots below the crosswire be zeroed for 400, 500, and 600 yards. The scope must then be set to its highest magnification setting to properly use the ballistics compensation features.

LR Duplex® Reticle Cartridge List

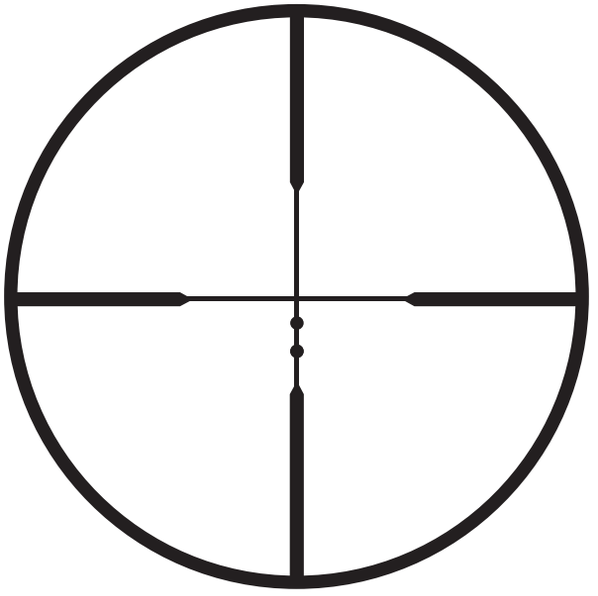
GROUP A (High Magnification, 200 yard zero)		
Caliber	Bullet Wt.	Velocity
.223 Remington	40	3800 fps
.22-250 Remington	55	3650 fps
.243 Winchester	100	2900 fps
.25-06 Remington	100	3200 fps
.25-06 Remington	120	3000 fps
.270 Winchester	130	3050 fps
.270 WSM	150	3120 fps
.280 Remington	140	3000 fps
7mm Remington Mag	150	3050 fps
.30-06 Springfield	150	3000 fps
.300 WBY Mag	180	3100 fps
.300 Winchester Mag	180	2950 fps
.300 WSM	180	2950 fps
.338 Winchester Mag	200	2950 fps
.338 RUM	250	2900 fps

(35-45 inches of drop at 500 yards)

GROUP C (High Magnification, 300 yard zero)		
Caliber	Bullet Wt.	Velocity
.270 WSM	130	3275 fps
.300 WSM	150	3300 fps
.300 Winchester Mag	150	3300 fps
7mm WSM	140	3225 fps
7mm STW	140	3325 fps
7mm RUM	140	3450 fps
7mm RUM	160	3250 fps
.30-.378 WBY	180	3400 fps
.300 RUM	180	3400 fps
.270 Weatherby	130	3200 fps
7mm Remington Mag	150	3100 fps
.300 WBY Mag	150	3375 fps

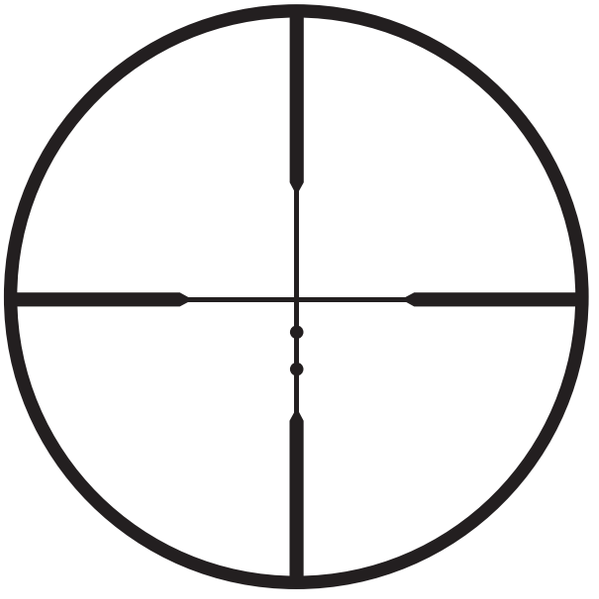
(Less than 35 inches of drop at 500 yards)

LR Duplex® Reticle
2-7x Models



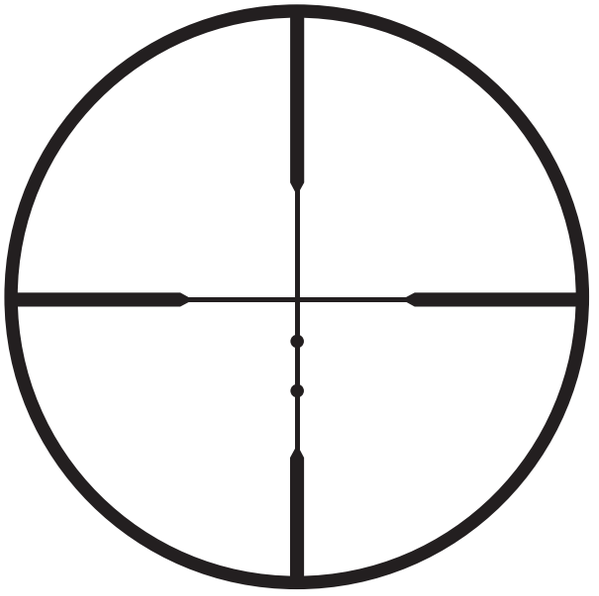
Reticle Feature	MOA @ High X	MOA @ Low X
Fine Line Width (Line Width)	0.41	1.08
Heavy Line Width (Thick Section)	1.26	3.32
Picket to Picket Space (Thin Opening)	19.77	52.13
Dot Diameter	1.24	3.27
300 Yard Dot (Distance from Center)	2.19	5.77
400 Yard Dot (Distance from Center)	4.80	12.66
Center to Bottom Picket Tip Spacing (500 Yards)	7.82	20.62

LR Duplex® Reticle
3-9x Models



Reticle Feature	MOA @ High X	MOA @ Low X
Fine Line Width (Line Width)	0.32	0.84
Heavy Line Width (Thick Section)	0.97	2.56
Picket to Picket Space (Thin Opening)	15.24	40.19
Dot Diameter	0.95	2.51
300 Yard Dot (Distance from Center)	2.19	5.77
400 Yard Dot (Distance from Center)	4.80	12.66
Center to Bottom Picket Tip Spacing (500 Yards)	7.82	20.62

LR Duplex®
4-12x Models



Reticle Feature	MOA @ High X	MOA @ Low X
Fine Line Width (Line Width)	0.24	0.63
Heavy Line Width (Thick Section)	0.72	1.90
Picket to Picket Space (Thin Opening)	11.32	29.85
Dot Diameter	0.71	1.87
300 Yard Dot (Distance from Center)	2.19	5.77
400 Yard Dot (Distance from Center)	4.80	12.66
Center to Bottom Picket Tip Spacing (500 Yards)	7.82	20.62

CONCLUSION

- Choose the appropriate ballistics group
- Sight-in at the distance required by that group (this may be done at any magnification setting)
- Adjust the magnification to the highest setting before using any of the long range hold points

The Leupold Ballistics Aiming System — LRV Duplex® Reticle

To use the LRV Duplex® reticle, zero your rifle at either 200 yards (Group A cartridges from the LRV Duplex® table on page 28) or 300 yards (Group C cartridges from the LRV Duplex® table on page 28). This will zero the hash marks below the horizontal crosswire at either 300, 400 and 500 yards in the case of Group A cartridges, or 400, 500 and 600 yards in the case of Group C cartridges. Similarly, as in the case of the LR Duplex®, the scope must be set to it's highest magnification level in order to properly use the ballistics compensating features.

LRV Duplex® Reticle Cartridge List

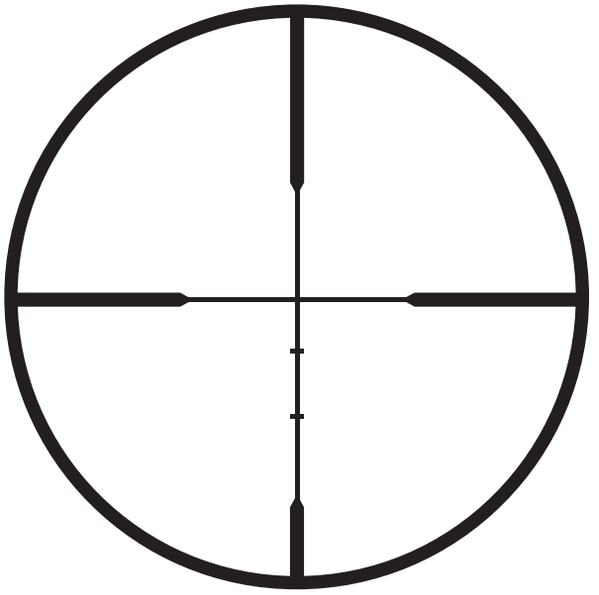
GROUP A (High Magnification, 200 yard zero)		
Caliber	Bullet Wt.	Velocity
.222 Remington	50	3150 fps
.223 Remington	53	3300 fps
.222 Remington Mag	55	3250 fps
.223 Remington	55	3250 fps
.243 Winchester	75	3400 fps
.243 Winchester	100	2900 fps
6mm Remington	75	3400 fps
.257 Roberts	117	2900 fps
.270 Winchester	150	2850 fps
7mm Remington Mag	175	2850 fps

(45-55 inches of drop at 500 yards)

GROUP C (High Magnification, 300 yard zero)		
Caliber	Bullet Wt.	Velocity
.17 Remington	20	4250 fps
.204 Ruger	32	4225 fps
.204 Ruger	40	3900 fps
.220 Swift	40	4200 fps
.22-250 Remington	40	4150 fps
.243 Winchester	55	3900 fps
.243 WSSM	55	4050 fps
.7mm STW	140	3325 fps
.7mm RUM	140	3450 fps
.7mm RUM	160	3250 fps
.30-.378 WBY	180	3400 fps
.300 RUM	180	3400 fps

(Less than 30 inches of drop at 500 yards)

LRV Duplex® Reticle
6-18x Models



Reticle Feature	MOA @ High X	MOA @ Low X
Fine Line Width (Line Width)	0.16	0.42
Heavy Line Width (Thick Section)	0.49	1.29
Picket to Picket Space (Thin Opening)	7.63	20.12
300 Yard Hash (Distance from Center)	1.81	4.77
400 Yard Hash (Distance from Center)	4.13	10.89
Center to Bottom Picket Tip Spacing (500 Yards)	7.02	18.51

CONCLUSION

- Choose the appropriate ballistics group
- Sight-in at the distance required by that group (this may be done at any magnification setting)
- Adjust the magnification to the highest setting before using any of the long range hold points

Another Way to Sight-In

For use with the Boone & Crockett™ Big Game, Varmint Hunter's™, LR Duplex®, and LRV Duplex® reticles. If you are using a LR Duplex® or LRV Duplex® reticle with a cartridge from the Group B cartridge chart, or if you have a cartridge that does not appear in one of the accompanying cartridge charts, the following method will provide you with a quick and easy way to sight-in. VX-7 users without large or small triangle reference marks should also use this method.

1. Initially, sight-in at 200 yards. Your point of impact needs to match your point of aim exactly at the 200 yard intersection of the reticle.
2. Using a larger target, place the target at a 500 yard distance and shoot a group while aiming with the 200 yard intersection; your bullets will strike

significantly (in some instances 60 inches or more) below the center.

3. Using a black marker, circle the group of bullet holes and fill in the circle. This will create a large black dot representing the bullet impact on the target that should be visible from the firing line.
4. While maintaining the same point of aim (hold in the center of the target with the 200 yard intersection) adjust the magnification setting until the 500 yard holdover mark points to the middle of the large black dot created with the black marker. This will create a situation where the scope is dead on at 200 yards and at 500 yards. Any variances at 300, 400, and 450 will be quite negligible.

In order to use any of the hold points accurately, the scope will need to be used on the exact magnification used to align the 500 yard mark with the center of the black dot. VX-7 users can align the notch in the ballistics indicator ring with the witness mark on the eyepiece to allow fast and accurate return to this setting in the field. For best results, check all aiming points at the actual distances for which they are intended.

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The Leupold Ballistics Aiming System — SAbot Ballistics Reticle™ (SA.B.R.™)

The goal of every hunter is a successful hunt with a cleanly made harvest. Whether a hunter is pursuing big game or varmints, it is imperative that he or she strive to make a quick, humane kill. It is with this in mind that Leupold has introduced the SAbot Ballistics Reticle, a tool intended to allow muzzleloader and shotgun shooters to make solid hits and clean kills at longer ranges.

The SAbot Ballistics Reticle® reticles give hunters a series of very useful tools intended to bring about successful hunts with clean and efficient harvests. Through the use of these straightforward and easy-to-follow instructions, it is sincerely hoped that all hunters will find their skills improved and their hunts more successful.

An Overview of the Leupold Ballistics Aiming System® – SAbot Ballistics Reticle™ (SA.B.R.™)

The Leupold SAbot Ballistics Reticle provides a series of aiming points to improve your ability to shoot accurately at longer ranges. The first aiming point (the intersection of the Circle-Plex style reticle) is designed to be used at 100 yards. The Leupold SAbot Ballistics Reticle provides you with three different power selector positions, indicated by 2 pellets, 3 pellets, and a shotgun shell within the magnification level indicators. These are provided to allow you to select the hold points best suited to the load you are using. The reticle assumes polymer-tipped sabots will be used throughout. As an example, a .50 caliber sabot with a 250 gr., .45 caliber Hornady SST/ML bullet exiting the muzzle at 2200 fps (3 pellets/150 grains of powder) would require the use of the 3 pellets setting. The same sabot/bullet combination with a muzzle velocity of 1890 fps (2 pellets/100 gr.s of powder) would require the use of the 2 pellets setting. 12-gauge shotgun applications would use the shotgun shell setting, a 350 gr. at Hornady FPB at 1950 fps is ideally suited for use on the 12-gauge setting, and 20-gauge shotgun loads would use the 2 pellets muzzleloader setting.

General Instructions For the Use of the Leupold Ballistics Aiming System®

SIGHTING-IN

The Sabot Ballistics Reticle™ (SA.B.R.™) is sighted-in at 100 yards (this may be done at any magnification setting) by zeroing the muzzleloader or shotgun at the intersection of the Circle-Plex style reticle at 100 yards. The scope must then be set to the appropriate magnification to properly use the ballistics compensation features.The top and bottom of the circle will be aim points for 50 yard and 150 yard targets respectively. The lower aiming dots will be correct at 200 and 250 yards, and the top of the bottom picket will be the proper aim point for 300 yard shots.

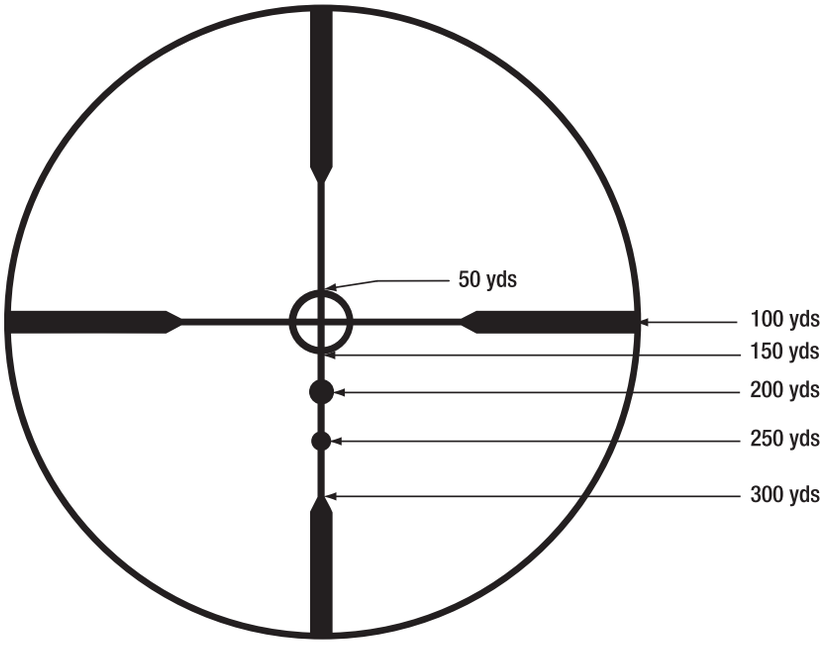
Shooting at extended ranges using a muzzleloader or shotgun should only be performed under controlled circumstances. Be sure to verify the aiming points by practicing at the actual distances at which the points are intended to work. Ballistic performance of your projectile can vary somewhat from component manufacturer data due to barrel length, actual component performance, and various atmospheric conditions.

SAbot Ballistics Reticle Features

- A distinct Circle-Plex style central aiming point (sighted-in at 100 yards) as well as hold points calibrated to 50, 150, 200, 250, and 300 yards for most loads
- Precise aiming dots designed to step-down in size to subtend 3 MOA at the intended distances
- A White-tailed deer range estimator

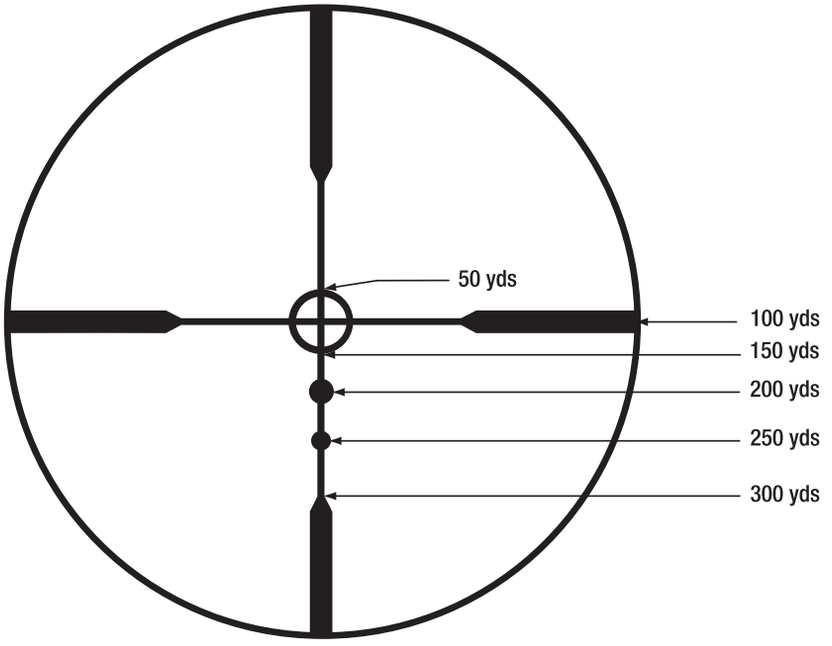
The SA.B.R.™ provides accurate hold points for long range targets; shooting at extended distances with a shotgun or muzzleloader may not be practical or ethical in all situations. As with any shooting related activity, caution and good judgement should be exercised at all times.

SAbot Ballistics Reticle™ (SA.B.R.™)
2-7x Models



Reticle Feature (MOA)	3 Pellet (High Power)	12 Gauge Shotgun	2 Pellet/ 20 Gauge Shotgun	Low Power
Fine Line Thickness	0.41	0.49	0.61	1.08
Heavy Line Thickness	1.25	1.50	1.87	3.33
Center to Top, Left, Right Thin Opening	8.00	9.58	11.93	21.23
150 Yard Feature (Bottom of Circle)	1.84	2.20	2.75	4.89
200 Yard Feature	4.00	4.79	5.97	10.61
250 Yard Feature	6.80	8.14	10.14	18.04
300 Yard Feature Thin Opening	10.00	11.97	14.92	26.53
Inside Circle Diameter	2.86	3.43	4.27	7.60
200 Yard Dot Diameter	1.43	1.71	2.14	3.80
250 Yard Dot Diameter	1.14	1.37	1.71	3.04

SAbot Ballistics Reticle™ (SA.B.R.™)
3-9x Models



Reticle Feature (MOA)	3 Pellet (High Power)	12 Gauge Shotgun	2 Pellet/ 20 Gauge Shotgun	Low Power
Fine Line Thickness	0.32	0.38	0.47	0.84
Heavy Line Thickness	0.97	1.17	1.45	2.57
Center to Top, Left, Right Thin Opening	8.00	9.58	11.93	21.07
150 Yard Feature (Bottom of Circle)	1.75	2.10	2.61	4.61
200 Yard Feature	4.00	4.79	5.97	10.54
250 Yard Feature	6.80	8.14	10.14	17.91
300 Yard Feature Thin Opening	10.00	11.97	14.92	26.34
Inside Circle Diameter	2.86	3.43	4.27	7.55
200 Yard Dot Diameter	1.43	1.71	2.14	3.77
250 Yard Dot Diameter	1.14	1.37	1.71	3.02

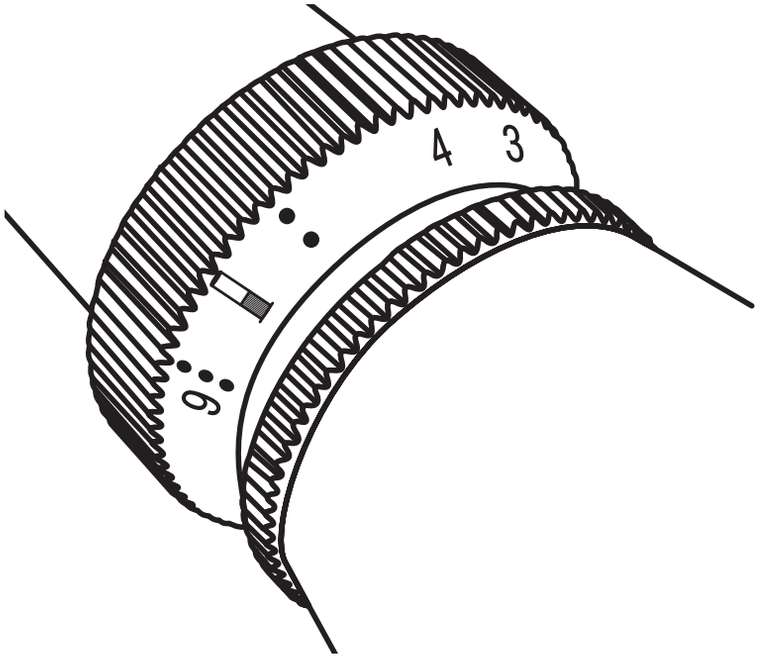
Using the SAbot Ballistics Reticle

First, determine which of the charge/ballistics settings on the power selector is the correct one to use based on your load.

1. Sight in at 100 yards on any magnification setting
2. Determine which charge/ballistics setting to use
3. Be sure to use this mark any time you want to use one of the aiming points below center

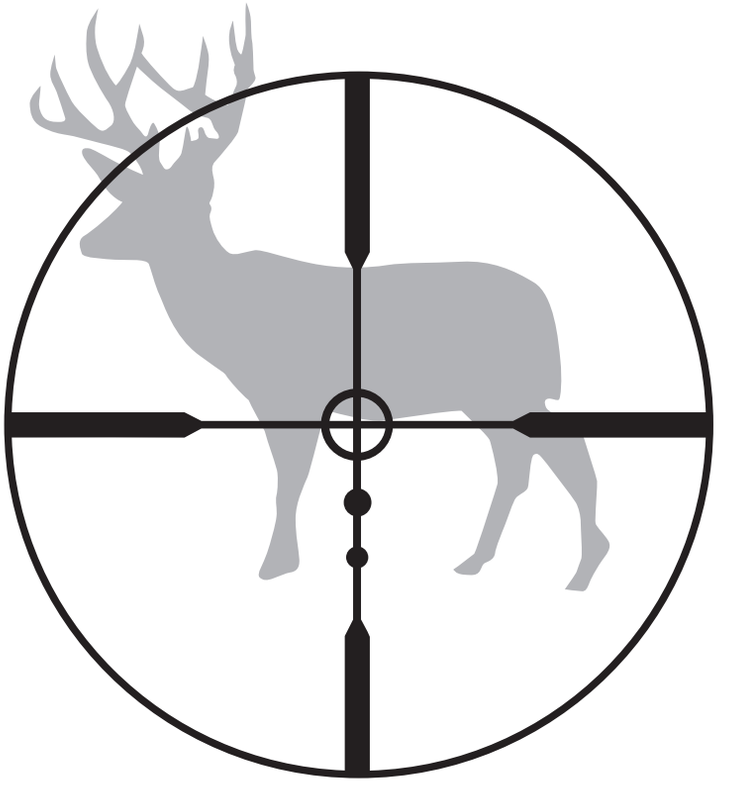
DETERMINE POWER SELECTOR SETTING

First, determine which of the marks on the power selector is the correct one to use with your particular load. Once you have determined which marks is the correct one for your load, always remember that is the position to which you must set the power selector when using any of the hold points on the SA.B.R.™.



DETERMINE THE RANGE TO THE TARGET

Determine the range to your target using a laser rangefinder such as a Leupold RB800C, RX or RXB Series digital laser rangefinder. Or you may determine whether a mature whitetail-sized target is 200 yards or closer by setting the power selector to high magnification (3 pellets setting) and bracketing a mature whitetail between the horizontal crosswire and the bottom of the upper vertical picket. If the buck is larger than this space, it is closer than 200 yards. If it's smaller than this space, then it's farther than 200 yards.



AIMING

The SA.B.R.™ is a hold point reticle. For targets judged to be 200 yards away, hold directly on the 200 yard hold point. For 225 yard targets, hold directly between the 200 and 250 yard hold points.

CONCLUSION

- Choose the appropriate load setting
- Sight-in at 100 yards (this may be done at any magnification setting)
- Adjust the magnification to the appropriate charge/ballistics setting before using any of the long range hold points

Another Way to Sight-In (SA.B.R.™)

For use with the SAbot Ballistics Reticle, if you are using a unique muzzleloader or shotgun load, the following method will provide you with a quick and easy way to sight-in.

1. Initially, sight-in at 100 yards. Your point of impact needs to match your point of aim exactly at the 100 yard intersection of the reticle.

2. Using a larger target, place the target at a 300 yard distance and shoot a group while aiming with the 100 yard intersection; your bullets will strike significantly (in some instances 60 inches or more) below the center.
3. Using a black marker, circle the group of bullet holes and fill in the circle. This will create a large black dot representing the bullet impact on the target that should be visible from the firing line.
4. While maintaining the same point of aim (hold in the center of the target with the 100 yard intersection) adjust the magnification setting until the 300 yard holdover mark points to the middle of the large black dot created with the black marker. This will create a situation where the scope is dead on at 100 yards and at 300 yards. Any variances at 150, 200, and 250 will be quite negligible.

In order to use any of the hold points accurately, the scope will need to be used on the exact magnification used to align the 300 yard mark with the center of the black dot. For best results, check all aiming points at the actual distances for which they are intended.

Ballistics Aiming System® Development Team

Leupold & Stevens, Inc., worked with a diverse, highly skilled group of hunters and shooters to develop the new Ballistics Aiming System®, which includes the Boone and Crockett™ Big Game Reticle, the Varmint Hunter's™ Reticle, the LR Duplex® Reticle, the LRV Duplex® Reticle, and the SAbot Ballistics Reticle. Special thanks to: outdoor writer, ballistics consultant, and lifelong varmint hunter Steve Timm; the Boone and Crockett Club® staff; Tim Lesser, antelope, deer, elk and varmint guide, and Marketing Communication Specialist. Tim is a valued employee of Leupold & Stevens, Inc. Again, thanks to each of you, and the entire Ballistics Aiming System® development team, for your efforts. They have truly paid off.

The Leupold package is made in part from recycled materials and is 100% recyclable This includes the black polypropylene supports, which are made of an accepted recyclable material. Many Leupold owners keep their scope boxes. If you have no use for yours, we encourage you to dispose of it responsibly. The special cloth surrounding your new scope was designed to be reusable; consider making it part of your regular gun care kit.

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Notes

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